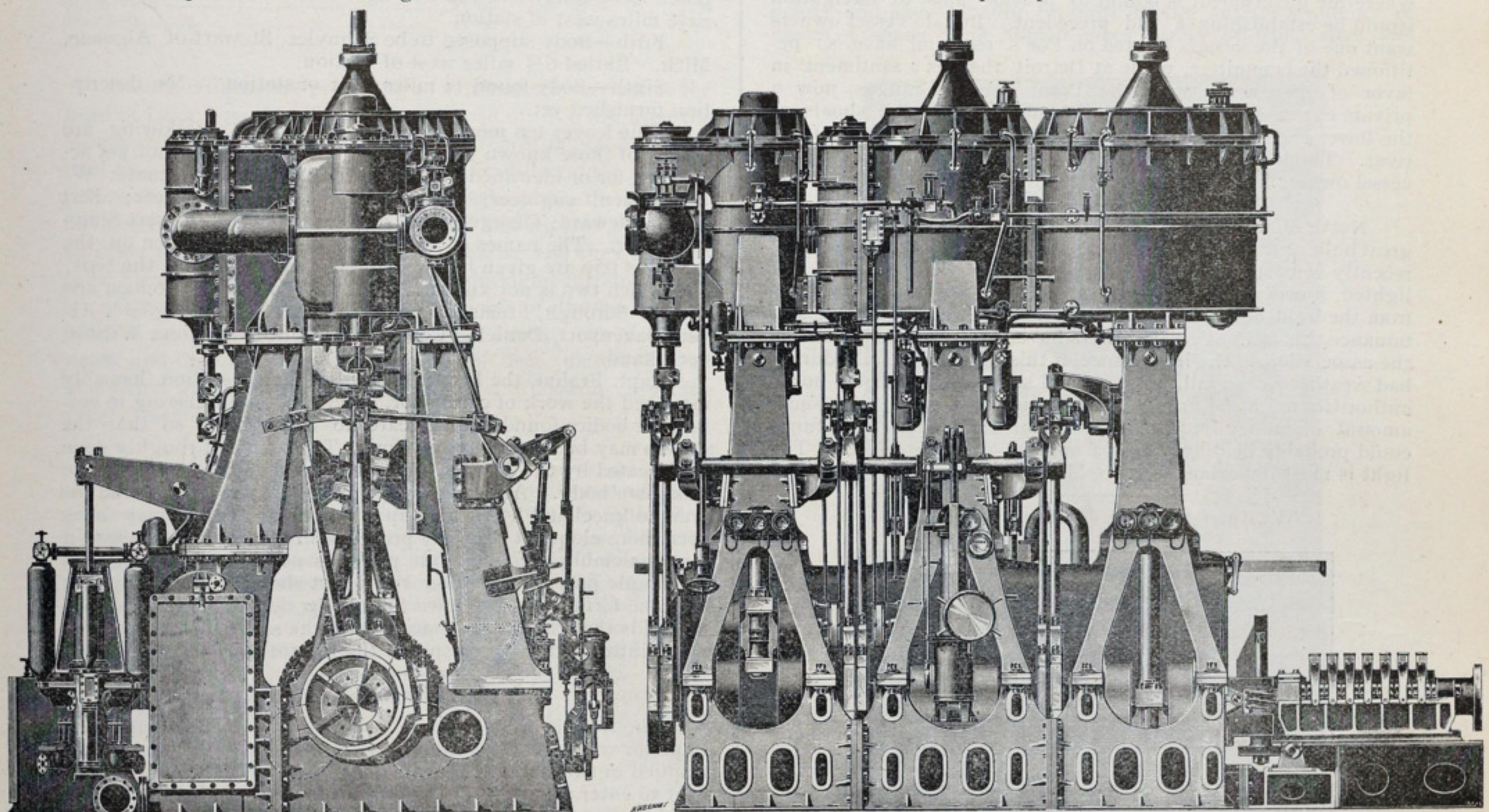
MARINE REVIEW.

VOL. VI. CLEVELAND, OHIO, THURSDAY, SEPTEMBER 22, 1892. No. 12.

Engine of Steamship Lismore Castle.

The engravings of the two handsome new steamers built by Barclay, Curie & Co., Glasgow, for the Castle Mail Packet Company's South African business, have recently appeared in London Engineering, from which the accompanying illustrations and description of the engines are taken. The dimensions of the two new steamers are: Over all 410 feet, beam 43 feet 3 inches, depth 31 feet; and the gross tonnage of each vessel is 4,050 tons. They are built beyond the rules of Lloyd's Register, the material used for the hull being Siemens-Martins steel. They are constructed upon the cellular double-bottom principle, without any wells leading into the hold, and thus the maximum amount of safety is obtained. They are divided into nine water-tight compartments by transverse bulkheads from the top of the double-bottom to the upper decks, and have two complete steel water-tight decks.

For the auxiliary machinery, winches, pumps, windlass and steam capstans, there is a large multitubular boiler, with



separate air and circulating pumps, so that all the auxiliary machinery is independent of the propelling engines and main boilers. Each vessel is fitted with triple-expansion three crank engines of which engravings are given herewith. The diameters of cylinders are 29½, 48 and 78 inches by 54 inches stroke. The working pressure is 160 pounds per square inch. The high pressure cylinder is fitted with a piston valve taking steam at the middle and exhausts at both ends. The intermediate cylinder has the usual double-ported slide valve and the low pressure cylinder a double-ported slide valve. Steam is supplied to the engine by two steel multitubular double-ended boilers, each 14 feet 9 inches by 18 feet 8 inches long. There are six Fox's corrugated furnaces in each boiler, with a separate combustion chamber for each furnace. There are 12 furnaces in all, each 3 feet 4 inches mean diameter. The speed attained when running "the lights" on the Clyde was 14.4 knots, the indicated horse power being 3,250, and the number of revolutions 75. The propeller is of steel with four blades, the diameter being 18 feet 6 inches and the pitch 21 feet 6 inches.

A Marine Organization.

The National Board of Steam Navigation held its twenty-first annual meeting in New York last week. The report of the legislative committee called attention to the successful efforts put forth in a meeting last March, when a protest was made against the passage of the Frye bill. The committee succeeded in getting amended the life line act so that sound and bay steamers were exempted from its provisions. It was suggested that senate bill 4,684,now in the committee on commerce, providing inspection for all sail vessels, would undoubtedly pass during the coming season. The bill to establish a marine board was considered and the presideut stated that it should be resurrected and pushed through the house of representatives where it stuck last session. The following officers were elected: F. A. Churchman, Philadelphia, president; B. D. Woods, New Orleans, first vice-president; James A. Henderson, Pittsburgh, second vice-president; Addison Lysle, Pittsburgh, treasurer; Charles H. Boyer, New York, secretary; T. W. Venneman, Evansville, assistant secretary.

A recent interesting extension of the field of the submarine boat has been made in Italy. The ordinary submarine vessel has been intended and designed almost exclusively for use in war and as a weapon of offense; it has been left for the Italians to organize a company for the recovery of submarine goods, and to design a submarine vessel with this object in view. It is a steel vessel, very much the shape of Columbus' egg amidships, 28 feet long, 6½ feet broad at its widest point, and 9¾ feet deep. The screw is driven by an electric motor, and it is intended to carry five men for forty-eight hours under water. An air-lock arrangement near the stern permits the crew, if properly equipped with divers' dress, to leave the vessel without admitting water into it.

Lake Carriers' Association.

M. A. BRADLEY. President.

VICE-PRESIDENTS: James W. Millen, Detroit, Mich. — John G. Keith, Chicago, Ill.
Frank J. Firth, Erie, Pa. — W. S. Brainard, Toledo, O.
Thomas Wilson, Cleveland, O. — R. P. Fitzgerald, Milwaukee, Wis.
Peter F. Miller, Buffalo, N.Y. — Alex. McDougall, Duluth, Minn.

Charles H. Keep, Secretary, Buffalo, N.Y. Geo. P. McKay, Treasurer, Cleveland, O.
Harvey D. Goulder, Counsel, Cleveland, O.

Within a few days the committee recently appointed by the association to confer with the light-house board, relative to the location of light-ships to be secured through the Eleven-Foot shoal appropriation, will meet the inspectors of the three light-house districts on the lakes. At least three light-ships will, it is expected, be obtained from this appropriation, and the act permits of their being placed anywhere on the lakes. Two of them are absolutely necessary in the Eleven-Foot shoal vicinity. The interests of that locality are also trying to hold the third vessel, on the claim that Eleven-Foot shoal, Poverty passage, Drisco shoal and Peshtigo are all dangerous places, badly in need of lights. The most important argument in favor of retaining the light-vessels in the Green bay district is in the fact that the original appropriation was for that locality; the appropriation is all needed there and to divide it with other places where the government is bound to provide aids to navigation would be establishing a bad precedent. Buffalo vessel owners want one of the vessels located on Poe's reef and have so petitioned the committee, while at Detroit there is a sentiment in favor of dispensing with the Point Edward ranges, now a private expense, by placing a light-ship to mark the shoals at the lower end of Lake Huron, near the entrance of the St. Clair river. The light-house inspectors as well as the committee of vessel owners have an important question on hand.

North of the Beavers, Lake Huron, on the course of the great bulk of traffic on that lake, is the Squaw island light-house, recently constructed and ready for service. The place is not lighted, however, and it is understood that the reason assigned from the light-house board for delay is a lack of funds for maintainance this fall. Vessel masters have called the attention of the association to the importance of this light, especially during bad weather in the fall, and it would seem that the light house authorities might be urged to in some way provide the small amount of money required for its maintainance. The funds could probably be drawn from a surplus at other places. The light is most important to Lake Michigan commerce.

Western Reserve Bodies Recovered.

HARRY STEWART—THE ONLY SURVIVOR.

Six passengers and captain and crew of twenty, making twenty-seven in all, were lost with the Western Reserve. Of this number seventeen bodies have been recovered, five of the seventeen being those of passengers, leaving Bertha Englebry of Vermillion the only passenger missing. Five of the twelve bodies of the crew recovered are known. They are Capt. Myers, Mate Fred Engalls, Wheelman Carl Meyers, Watchman Daniel Forbes, and one body from description furnished is thought to be Herman Klaasen, Huron, O. This leaves seven bodies to be identified. One, a fireman named Tom, was buried at Sault Ste. Marie, the others being buried along the shore west of Deer Park life saving station. In order that friends may identify and remove bodies if they wish, the following descriptions and locations of the graves have been collected from letters and telegrams to Phillip Minch from Capt. Frahm of the life saving station.

First body buried—Man supposed to be between thirty and forty-five years old, 6 feet, sandy mustache, bald on top of head, probably an engineer or steward. Buried 8 miles west of station.

Second—Man supposed to be thirty years old, dark hair, small sandy mustache. about 5 feet 10 inches, weight about 175, probably fireman or oiler. Buried 8¼ miles west of station.

Third—Man from twenty-five to thirty, blonde; probably a deck hand. Buried 10 miles west of station.

Fourth—Deck hand or fireman, about 155 pounds, supposed to be thirty-five years of age, dark complexion. Buried 12⅝ miles west of station.

Fifth—Body supposed to be Schuyler Stewart of Algonac, Mich. Buried 6½ miles west of station.

Sixth—Body found 11 miles west of station. No description furnished yet.

This leaves ten more bodies to be found. Following are names of those known to have been on the boat but not yet accounted for or identified: Charles LeBeau, second mate; W. H. Seamen, engineer; Charles Wills, second engineer; Bert Smith, steward; George Davis, assistant steward; Robert Simpson, oiler. The names of the deck hands and firemen on the previous trip are given below, but two of them left the boat, and which two is not known: S. T. Hatten, John Latcham and Horace Borough, firemen; Daniel Stickney, R. Longfield, Albert Davenport, Daniel O'Connell, M. Coffee and John Wilson, deck hands.

Capt. Frahm, the keeper of the life-saving station, has ably managed the work of caring for, describing and interring in coffins the bodies found, taking care to mark trees, so that the graves may be located at any time. That it is not roughly done is indicated by the detailed description of the interment of one unknown body. After filling the grave the captain ordered his crew to kneel and he offered up a prayer. There may have been more eloquent sermons preached in some church before a large assembly of friends, but probably none more sincere than the simple prayer uttered on the desert shore of Lake Superior over the form of an unknown fireman or deck-hand. The captain adds that this work comes within the scope of his government duties and that no especial thanks are due him.

Work of the Ship Yards.

The American Steel Barge Company's new dock at West Superior was tested last week. It fills in one hour and can be emptied in two hours. The steamer Neshoto will be the first boat to enter the dock. It is stated that the barge company will build during the coming winter four whalebacks, designed especially for the Duluth-Buffalo flour trade. Work has been commenced on a barge at the company's yard at Everett, Wash.

The contract for a steel passenger steamer, 275 feet keel, 295 feet over all, 42 feet beam and 24½ feet deep from spar deck and 32 feet from hurricane deck, for the Lake Michigan and Lake Superior Transit Company, has been secured by the Chicago Ship Building Company. The state rooms will be flush with the sides, leaving no promenade on main deck. The price is said to be $300,000. She will run from Chicago to Sault Ste Marie.

The dimensions of the two new Lake Superior passenger steamers to be built by the Globe Iron Works Company have been decided upon. They will be 360 feet keel, 380 feet over all, 44 feet beam and 34 feet deep. The size of the engines have not been determined but they will be large enough to develop 6,600 horse power. There will be two engines for the twin screws. The spar arrangement is not known. There is a general impression that these boats will be ready for next season. They will not be completed until the season of 1894.

Record of Speed and Big Cargoes.

[*Masters or owners of freight boats are invited to report improvements on this list.*]

Iron ore: Maritana, Minnesota Steamship Company of Cleveland, 4,260 gross, or 4,771 net tons, Escanaba to South Chicago; Maryland, Inter-Ocean Transportation Company of Milwaukee, 3,663 gross, or 4,103 net tons, Escanaba to South Chicago, draft 17 feet 4 inches.

Grain: E. C. Pope, Eddy Bros. of Bay City, 125,730 bushels of corn, Chicago to Buffalo, draft 14 feet 8 inches; W. H. Gilcher, J. C. Gilchrist of of Cleveland, 113,885 bushels of wheat, Chicago to Buffalo.

Speed: Owego, Union Line of Buffalo, Buffalo to Chicago, 889 miles, 54 hours and 16 minutes, 16.4 miles an hour.

Iron Mining.

VALUE OF LEADING STOCKS.

Quoted by Chas. H. Potter & Co., No. 104 Superior St. Cleveland, O.

Stocks.	Par Value.	Bid.	Asked.
Cleveland-Cliffs Iron Company.....	$100 00	$.....	$ 65 00
Champion Iron Company.....	25 00	.....	58 00
Chandler Iron Company.....	25 00	44 50	46 00
Jackson Iron Company.....	25 00	.....	.....
Lake Superior Iron Company.....	25 00	.....	41 00
Minnesota Iron Company.....	100 00	.....	75 00
Pittsburgh & Lake Angeline Iron Co.....	25 00	.....	.....
Republic Iron Company.....	25 00	.....	.....
Ashland	25 00	.....	.....
Section Thirty-three.....	25 00	.....	5 00
Brotherton.....	25 00	2 00	2 50
Iron Belt.....	25 00	2 25	2 50
Aurora.....	25 00	8 25	.....

Duluth citizens are preparing to celebrate the arrival at the head of Lake Superior of the first car load of iron ore from the Mesaba range. Special trains will be run from Minneapolis and St. Paul and excursions have been arranged for different towns in the surrounding country. The Duluth, Mesaba & Northern road is fast nearing completion. Managers of leading iron properties on other ranges are still visiting the Mesaba and they all seem to be keeping a very close watch of its development, but there are no leases of importance recently. Some of the fee holders of the Norrie mine are said to have leased lands south of the Biwabik and Canton mines, although it has been understood all along that the Norrie people who have been looking over the range consider the royalties too high.

Shipments of iron ore from Two Harbors up to and including Wednesday, Sept. 14, aggregated 870,880 gross tons, of which 500,201 tons were from the Chandler, 361,157 tons from the Minnesota, 2,525 tons from the Pioneer and 6,997 tons from the Zenith mine. On the same date shipments from Ashland aggregated 1,624,234 gross tons, divided among the different mines as follows: Ashland 157,351 tons, Aurora 241,957, Colby, No. 1, 1,170, Colby, No. 2, 47,335, Rand 17,233, Tilden 174,198, Taylor 14,640, Globe-Ashland 5,309, Iron Belt 117,788, Montreal, south vein, 3,383, Montreal, north vein, 25,749, Palms 45,898, Section 33, south vein 4,619, Section 33, north vein 3,133, Anvil 1,696, Brotherton 75,568, Comet 25,049, Carey 22,324, Newport 81,024, Imperial 3,456, Norrie 310,541, East Norrie 148,419, Odanah 2,242, Pabst 38,599, Eureka 5,086, Sunday Lake 40,114, Windsor 18,936, Jack Pot 1,609.

Another valuable find of ore is reported from the property of the Commonwealth company, Menominee range. Although a very large output is being made this season from the different mines of this company the work of exploring its property goes on right along.

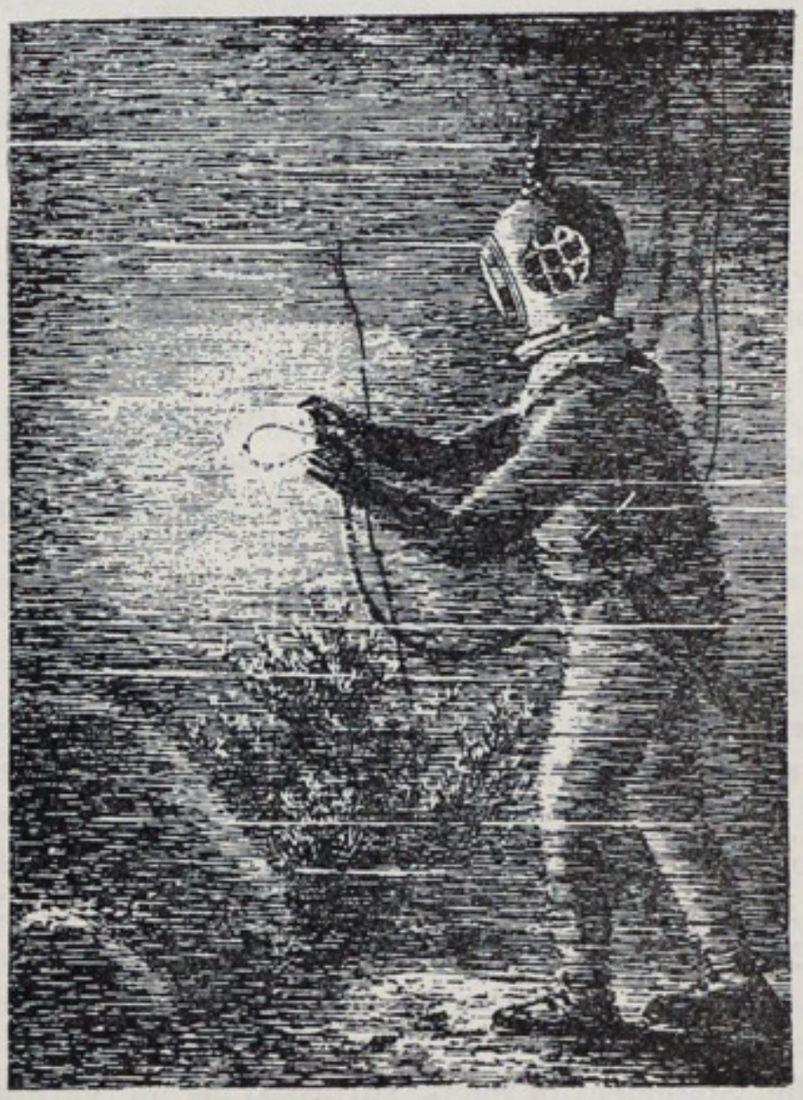
Speed and Big Cargoes.

For only a single week the steamer Onoko held the honor of carrying the largest cargo of wheat between Chicago and Buffalo. The steamer W. H. Gilcher, owned by J. C. Gilchrist of Cleveland, a few days ago delivered at Buffalo from Chicago a cargo of 113,885 bushels of wheat, or 46 bushels more than the Onoko's cargo of a week previous.

The new steel steamer Pioneer, owned by the Cleveland-Cliffs Iron Company, may be the fastest freight boat on the lakes, but as yet she can hardly be said to have earned it against the public record of the Union liner Owego between Chicago and Buffalo two years ago, when that boat made an average of 16.4 miles an hour on the long run of 889 miles. The Owego's test was publicly announced beforehand and is beyond question. It is claimed for the Pioneer that she made the run between Buffalo and Detroit, light, two weeks ago at an averge of a small fraction less than 17 miles an hour, but now comes a report from Buffalo that on the last trip down the Owego left Detroit 20 minutes behind the Pioneer and arrived in Buffalo 40 minutes ahead of her, both boats being loaded.

Searching for Sunken Gold Near Hell Gate, New York.

For several weeks a dredging company organized in Gloucester, Mass., has been endeavoring to locate a great quantity of British gold. This gold lies at the bottom of Long Island sound, under 90 feet of water, just above Hell Gate, near New York city. The amount of money is reported to be not less than $5,000,000, and has been quietly reposing at the bottom of the sound for more than one hundred years. The details of the sinking of the Hussar, a British war ship, with this large quantity of money and seventy American prisoners of war on board, are very interesting, but would occupy too much of our space to be repeated here. It is sufficient to say that the dredgers have located the sunken vessel, over which the tides of one hundred years have washed a tremendous quantity of sand and debris, and have already brought to the surface a number of pieces of money, some human bones, pieces of iron, steel and



copper, and other fragments of the vessel. The method of searching employed by the diver at the bottom of the sea is shown in the accompanying illustration. A powerful incandescent lamp protected by a double globe, and connected by a strong insulated cable to a generator on the wrecker above, furnishes the light for this submarine work. Casting this light before him, the diver prowls around among the rocks and seaweed of the bottom, and explores the remains of the old wreck with almost as much ease as if he were in the light of day above, and not buried under ninety feet of water. Although previous attempts have been unsuccessful, the present company is determined to prosecute the work, and keep the diver and his light below until his search is rewarded by the glitter of the long-lost treasure. —Scientific American.

Wrecks and Heavy Losses.

The steamboat Vienna, sunk on Friday last through collision with the steamer Nipigon six miles below Whitefish point in deep water, can be added to the total losses of the season. She was owned by the Orient Transportation Company, Cleveland, and was valued at $46,000. Her insurance is divided as follows: St. Paul $5,000, Detroit $5,000, Michigan $5,000, North American $5,000, London $5,000 and Commercial Union $14,000.

Late Capt. Peter J. Kenney.

(From the Illustrated Buffalo Express,
Copyrighted 1892 by George E. Matthews & Co., Buffalo, N. Y.)

Few men were better known or more generally liked among lake navigators than Capt. Peter J. Kenney, who died at his home on Park Place, Buffalo, last week. He was born in Guelph, Ont., in 1837, but moved to Buffalo in 1850, where he had lived ever since. Capt. Kenney's last command was the steamer Florida of Buffalo. He had been actively engaged on the lakes for about thirty-five years.

From an Ex-Officer of Volunteers.

Army and navy officers all over the country are showing an interest in the case of Col. Ludlow and Commander Heyerman with the light-house board. Below are printed some extracts from a letter to a gentleman on the lakes from an ex-officer of volunteers in Ohio who has evidently kept up his interest in army matters. The writer is unknown to Col. Ludlow or Commander Heyerman and had nothing to go on but the printed statement, a copy of which had been sent him by his correspondent.

"The 'Statement of Facts' surprised me in various ways," says the veteran. "I can not quite understand how men of spirit could have the patience to write so calm a paper, so dignified and formal in phraseology, on a subject every point of which must have goaded every fibre of every nerve in their anatomy. It is difficult to conceive of a situation more trying than when men try to do what is right, try to obey orders and find that sheer pomposity, or more properly cussedness, demands of them impossibilities and for failure in this, in which the very gods fail, apply the torture.

"Nothing but *discipline* could possibly prevent these aggrieved parties from making such reply as would be appropriate and which I forbear to put down for the reason that the words would have a sulphurous odor.

"The wrong, the outrage is clear cut on the face of the facts. There was no alternative but to do as these officers have done, for to have acted otherwise would have resulted in such disasters as would have been irreparable, even to their reputation. I could not avoid getting swearing mad about it.

"As I am not in the service and do not care a tinker's damn for the naval board, it will not be fatal if I say in ink that the aforesaid board have made donkeys of themselves. There is malice lurking somewhere about the anatomy of that group of dictators.

"It is a burning shame and every man who has a spark of regard for fair dealing should boil over with indignation at the punishment of men who not only tried untiringly to do their whole duty but actually did it, and that to render a fair and commonsense interpretation of orders should be subjected to strained quibbles and driven from the field by such stupidity and malevolence.

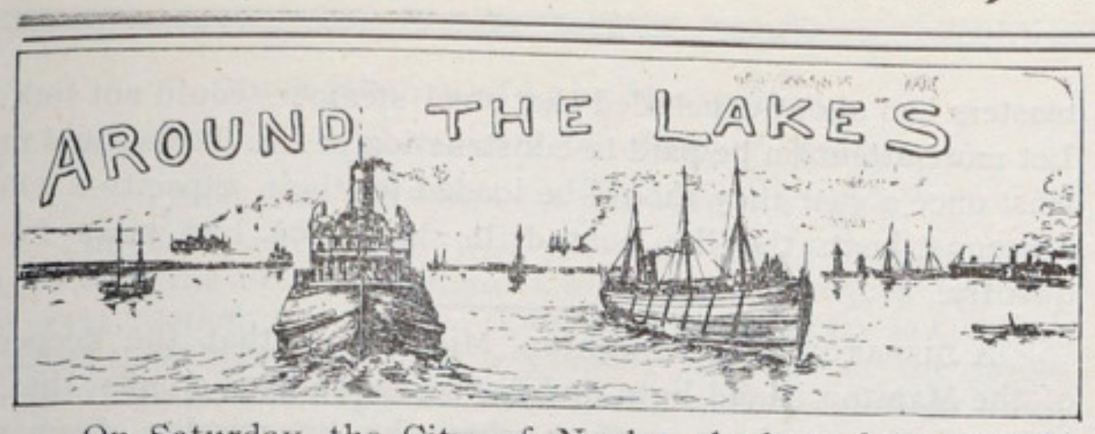
"As an American citizen I am indignant. Time will show that they were right, and I hope amends will follow on the heels of wrong. I knew that asses sometimes attained high places in the army, and now alas! I learn that the same is true of the navy. Ludlow and Heyerman stock went up and up in my estimation on the reading of every page."

New Cunard Steamship Campania.

The new Cunard steamship Campania launched on the 9th inst. from the yards of the Fairfield Shipbuilding and Engineering Company of Glasgow will be ready for service upon the opening of the World's Columbian Exposition. She is 600 feet long, or 40 feet longer than the Teutonic and City of Paris, and 65 feet broad, or only 8 feet narrower than the Great Eastern. Her depth of hold is 41 feet and her gross tonnage 14,500. Her engines are already completed and are at present being placed in position. They consist of two separate triple expansion engines, each capable of indicating from 12,000 to 15,000 horse power and each driving a screw of manganese-bronze. Each engine has five cylinders and three cranks. Of these five cylinders two are high pressure, one intermediate and two low pressure. The first crank is driven by a high pressure and low pressure piston and cylinder, arranged tandem, and so also is the third; while the second or intermediate receives the steam from the two high pressure cylinders, and exhausts into the two low pressure cylinders. The propeller shafts are 25 inches in diameter, and and are carried outboard in casings, which are worked in the skin of the ship, so that the whole shaft up to the stern bushes will always be under observation. The screws do not overlap, and a large opening is made in the deadwood between them to facilitate the motion of the water. The rudder is made from a single steel plate, weighing ten tons. Curiously enough after the specifications were drawn out, it was found that no rolling mill in Great Britain had a pair of rolls wide enough for the rudder plate, and after inquiries it was discovered that Krupp, of Essen, was the only firm in the world whose rolls were capable of executing such a huge piece of work. The speed of the engines, 100 revolutions per minute, will be very high for marine practice. Consequently it has been necessary to design the moving parts in such a way as to obtain the very smallest dimensions consistent with the great strength required. The steam is supplied from twelve double ended boilers, which have each eight furnaces in them. Each pair of furnaces will have separate uptakes, and there will be six stokeholds and two funnels. The lines of the hull are exceeedingly beautiful, and they give great promise of a high speed. There will be two shelter decks, one above the other, and the flying bridge will stand 60 feet above the water level.

The Campania and her sister ship Lucania, which will be launched in a few months, will create a great sensation when they are placed in the transatlantic service. Not only are their general dimensions much greater than any existing steamship, but the horse power of their engines will probably be found on trial to be 33 per cent. higher than that of the Teutonic or City of Paris. The design of their engines is something quite novel, and the arrangement of the cylinders almost makes each engine a double one in itself. In all probability these vessels will reduce the transatlantic steaming record by six hours, and thus make the passage from Brow Head to Sandy Hook in 5 days 10 hours.

Mullen & Gatfield is the name of the firm that will operate the new coal chutes now being constructed on the Canadian side of the Detroit river below Detroit. John Mullen is well known in connection with the fueling business at Amherstburg and Mr. Gatfield is now a member of the firm of Duff & Gatfield, also of Amherstburg. The new docks will not be ready for business until next spring.



On Saturday the City of Naples, the last of the three big steamers built at James Davidson's shipyard, was launched.

C. P. Markham will succeed T. P. Carpenter as general passenger agent of the Lake Superior Transit Company. Mr. Markham was Mr. Carpenter's assistant.

Chicago parties have purchased the side-wheel steamer Pearl. A new boat will probably be build for the Buffalo-Niagara trade, in which the Pearl was engaged this season.

Directions have been issued at Chicago for steamers to keep along the south side of the river, hugging the life-saving station, in order to avoid the bar at the mouth of the harbor. There is plenty of water on the south side, but it is shoal on the north side.

Capt. Burton of the Lehigh Valley steamer Seneca has resigned. Capt. Driscoll of the Clyde will take command of the Seneca, Capt. Talbott of the R. A. Packer will go into the Clyde, and George McMinn, mate of the Saranac, will command the Packer.

The steamer Telegram has been sold by the Sandusky Steamboat and Fishing Company to Ainsworth & Ganley, of Sault Ste. Marie. Her new owners will place her on the route between Sault Ste. Marie and Otter Head on the north shore of Lake Superior.

Detroit people are not boasting about the Newberry yacht Truant, which is now on her way up from the coast, but it is understood that she will be a very fast boat. She is 131 feet over all, 110 feet on the water line, 17 feet 10 inches beam and 11 feet deep. The engines are of the latest Herreshoff type.

Stockholders of the new Cleveland and Buffalo Transit Company met in Cleveland Monday, and elected the following board of directors: M. A. Bradley, J. K. Bole, H. D. Goulder, R. C. Moodey, R. Shurmer, George W. Gardner and T. F. Newman. The directors will meet next week and elect officers.

Mitchell Bros. of Oswego have sold the schooner Annie M. Peterson, through Galvin, Mallon & Boland, of Buffalo, to Charles Hebard & Sons of Pequaming. The consideration is said to be $15,000. The Peterson was built at Fort Howard in 1874, and is rated in the Inland Lloyds as A2, with a valuation of $18,000.

It is not probable that the government engineers will ask for bids on the dredging work involved in the 20 and 21-foot channel in the connecting waters of the lakes before the close of navigation, but Major Adams, acting chief of the engineer corps at Washington, says that the contracts, which involve an expenditure of about $3,000,000, can and will be awarded so as to have the work begun as soon as the ice breaks up in the spring.

Awarding a Big Canal Contract.

Special Correspondence to the MARINE REVIEW.

KINGSTON, Ont., Sept. 22.—There is a hitch in the Soulanges canal contract which, so far, has prevented the department of canals from reporting the lowest tenders. Tenders were invited for sections 1 and 2 of the canal some time ago, and both were to go in one contract. There are four locks to be built, and it is calculated that the work will cost about $1,500,000. There were nineteen tenders in all received, but several days ago the checks deposited in the department were returned to seventeen of those who tendered. Two were retained, and it is over these two that difficulty has arisen. One is from Arch, Stewart & Co. of Ottawa and the other from Garson, Beggey & Co. of St. Catherines, at the head of Lake Ontario. The tenders called for figures for two plans. According to the first plan the locks were to be built with masonry, while the second plan called for concrete. The St. Catherines firm is the lowest for masonry, while the other is the lowest for concrete, and its figures are much lower than the masonry figures. The government therefore will have to decide of what the locks will be constructed ere the contract can be awarded.

The new steamer Columbian, stranded in the Cedar rapids, has been hauled off and anchored a little to one side of the channel. When her steering gear is repaired she will be let loose, when it is expected she will shoot the rapids safely. Her business is done for this season, during which it might be said that she only made one successful trip. The accident was a very costly one to her owners.

The Rathbun Company has purchased from the Allen Company of Montreal the steamer Rocket for $19,000. During the winter changes will be made that will increase her speed to 16 miles an hour.

Ordered to Foreign Naval Schools.

Special Correspondence to the MARINE REVIEW.

WASHINGTON, D. C., Sept. 22.—Assistant Naval Constructor Lawrence Spear and Naval Cadet B. M. Watt have been detached from special duty at the shipyard of Messrs. Cramp & Sons, and ordered to proceed to London, England, and upon arrival to report to the United States naval attache for instructions regarding the second year's course at the university at Glasgow, Scotland. Naval Cadets John D. Beuret and Joseph E. McDoudly have been detached from the navy yard at Norfolk and ordered to proceed to Paris, France, to pursue a course of naval architecture. Naval Cadets H. S. Ferguson and Frank B. Zahm have been ordered to the university at Glasgow to pursue a course of study.

Bids were opened a few days ago by the bureau of yards and docks for the construction of a naval dry dock at the Puget sound naval station. All the bids submitted were from contractors on the Pacific coast. The specifications call for a dock 625 feet long on coping, 92 feet wide on coping at abutment, with a draught at mean high water of 30 feet. The lowest bidder for sandstone alone was J. P. M. Phillips, $475,190. Bryan, Bailon & Co., bid $491,455 for sandstone and $508,985 for granite.

The Attorney in the Sault River Lighting Case.

EDITOR MARINE REVIEW:—Another Washington gentleman who is very probably connected with the light-house board in some way has been interviewed. He makes the grave charge that Col. Ludlow engaged Attorney Frank Ward of Sault Ste. Marie to make contracts for sites, etc., without having any authority to do so. The fact is, this matter of having an attorney was simply another blunder in the office of the light-house board, as is well known to members of the Lake Carriers's Association who were connected with the investigation of this case and who did not go to Washington without being well informed. Col. Ludlow was ordered by telegraph in May to get the written consent of owners to occupation of sites and future purchase. He drafted these agreements himself, but the signatures had to be "caught on the fly," as it were, as a number of the owners were vessel men plying their vocation. A bright, active man was needed for this, familiar with land and matters, and a young attorney was found who filled the bill. The office of the light-house board blundered again and asked the attorney general to employ this young man as an "acting assistant attorney general." There was no question of titles to be criticised or corrected, and no legal work to do. Of course, when the attorney general learned the facts, he cancelled the appointment, but Col. Ludlow had nothing to do with this. The board handled the matter with the attorney general. Instead of hiring the man, like any other employee, they muddled the business by trying to have him appointed an officer of the department of justice. The total amount of service was fifty hours at $1 an hour, $50.

It is a matter of record that the act of congress for lighting the St. Mary's river, in set terms provides for "some thirty-seven lights." The board has already authorized forty, with no change in the law and could as easily have done it before, as since, the relieving of Ludlow and Heyerman. There was an abundance of funds both for construction and maintenance of all the lights, and the original instructions to the inspector (Heyerman) covered forty lights at the maximum rate, and was quite enough for all the lights contemplated. (See Commander Coffin's letter in appendix to published statement). The offense with which Ludlow was publicly charged was "insubordination"—about as serious an offense as a military officer could commit. The official charge as stated in the letter of the secretary of the treasury to the secretary of war, asking that Ludlow be relieved is "failure to comply promptly with recent orders of the board"—a mild enough matter when, as is now known, Ludlow was thoroughly justified in his "failure to comply." Officially, in the letter from the secretary of the treasury to the secretary of the navy, Heyerman was charged with "neglect of duty"; no particulars, and none imaginable, as he did everything in the world he should have done. Neither one or the other of these officers was charged with violation or disobedience of orders, (except as above stated), when they protested against putting up false lights. Col. Ludlow never took upon himself to put up more lights than were authorized. In fact, he never put up any that have not been authorized and these were not in service when he left the St. Mary's river, or for some time afterwards. Both Ludlow and Heyerman experimented with ranges to find out if they would be right, but they confined themselves strictly to renewing recommendations for adoption by the light-house board. Those are the plain facts of the record and on them the issue should be joined. This discussion should be continued on those lines. If it is a personal matter and of "previous record" let us have it in that shape. If it is a case of *persona non grata* with the light-house board, a frank and straight-forward expression of that fact would have been better long ago. It would then have been a case of *de gustibus non* and discussion would have been closed before it began. ONE OF THE INVESTIGATORS.

MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

JOHN M. MULROONEY, ... } PROPRIETORS.
F. M. BARTON, ... }
HOMER J. CARR, . . . Associate Editor and Manager Chicago Office, Western Union Building, 110 LaSalle Street.

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SUBSCRIPTION—$2.00 per year in advance. Convenient binders sent, post paid, 75 cents. Advertising rates on application.

The books of the United States treasury department contain the names of 3,600 vessels, measuring 1,154,870.38 tons in the lake trade. In classification of this fleet the lakes have more steamboats of 1,000 to 2,500 tons than the combined ownership of this class of vessels in all other sections of the country. The number of vessels of 1,000 to 2,500 tons on the lakes on June 30, 1891, was 310 and their aggregate gross tonnage 512,787.58; in all other parts of the country the number of this class of vessels was, on the same date, 213 and their gross tonnage 319,750.84. The classification of the entire lake fleet is as follows:

Class.	Number.	Tonnage.
Steam vessels	1,592	756,751.53
Sailing vessels	1,243	325,131.06
Canal boats	703	72,515.42
Barges	62	20,472.37
Total	3,600	1,154,870.38

Tonnage built on the lakes during the past five years, according to the reports of the United States commissioner of navigation, is as follows:

	No. of boats.	Net Tonnage.
1887	152	56,488.32
1888	222	101,102.87
1889	225	107,080.30
1890	218	108,515.00
1891	204	111,856.45
Total	1,021	485,042.94

St. Mary's Falls and Suez canal traffic: Number of boats through St. Mary's Falls canal in 1890, 228 days of navigation, 10,557; tonnage, net registered, 8,454,435. Number of boats through Suez canal during 1890, full year, 3,389; tonnage, net registered, 6,890,014. Number of boats through St. Mary's Falls canal in 1891, 225 days of navigation, 10,191; tonnage, net registered, 8,400,685. Number of boats through Suez canal during 1891, full year, 4,207; tonnage, net registered, 8,698,777.

Entered at Cleveland Post Office as Second-class Mail Matter.

CONGRESSMEN WEADOCK and Whiting, the former from the Michigan district including Bay City, and the latter from the district including Port Huron in the same state, have both been renominated. These are the two Michigan congressmen who opposed the deep waterways appropriation in the last session of congress. Liberal appropriations for this important project were secured notwithstanding the opposition of these two representatives, but it might be well for their constituents who understand the importance of lake improvements to this part of the country to secure an expression from them as to future action on measures of a similar nature. Their only excuse for voting against the deep waterways project was the claim, not publicly stated, that it would be against the local interests of their districts and in favor of the owners of large vessels. Such a claim will certainly not hold good even in Bay City, were some of the largest and best wooden vessels on the lakes are owned, and should carry no weight in considering the general welfare of the lake marine.

THERE is no doubt that masters have been careless in the matter of seeing that their life-boats are in good shape, and it might be added that there is some question as to the seaworthiness of many life boats on lake steamers, even when they contain no more passengers than the law allows. A lake builder recently made a test of a boat meeting the requirements of government rules, by loading it with the full number of persons allowed by law. The sides amidships were only seven inches above the water. Seven inches of free board in a very light squall would be meagre enough, but in a gale it is almost useless to enter such a boat. The reason that more attention has not been paid to life boats, on steel steamers especially, is the undue confidence placed in all big boats of late years. Some masters had about concluded that steel steamers could not sink. Let more attention be paid to construction of life boats, and at least once a year they should be loaded to their capacity. On passenger boats the life boat drill should be had more frequently.

A DISPATCH from Houghton, Mich., says that the keeper of the Manitou island light and fog signal station admits that, although the weather was thick when the big wooden steamer Neshoto went ashore on Keweenaw point several days ago, the fog signal was not in operation. This report is certainly deserving of careful investigation from Commander Reed of Buffalo, light-house inspector of the district comprising the rivers and Lake Superior. If it is true that the fog signal was not in operation, the accident, which is one of the most costly of the season, is undoutedly due direct to this cause. Manitou island is at the outward end of Keweenaw point, the most dangerous locality in Lake Superior, and it will be readily seen how a vessel would, through a slight variation in her compass, meet with disaster in trying to round the point in thick weather without the aid of this fog signal.

ALTHOUGH the loss of the whaleback Chas. W. Wetmore on the Pacific coast must be considered a set back to this type of vessel for ocean service, the accident is not of a kind that will greatly hinder the work of the American Steel Barge Company in building these vessels for coast service. In all her career of mishaps the only trouble that can be said to have been due to constructian was the leakage in the bow plates caused by the heavy pounding of the seas on the blunt spoon-shaped bow. This was partly remedied by placing water ballast tanks forward, causing the ship to sink deeper, especially when running light. With more substantial construction it may be expected that the barge company will go ahead building wholebacks for deep water trade, just as though this accident had never happened.

Lake Freight Matters.

Both shippers and vessel owners have every reason to feel satisfied with the conditions ruling in the freight market so far this season. Unless the course of the market changes materially, the vessel owners who made season contracts during the winter for carrying ore will have profited somewhat by their action, but the going rates so far have been fairly profitable, and the full movement of grain has started in with the usual advance but with no indications of a boom. Stocks of corn and wheat in Chicago, aggregating on Monday last 11,568,963 bushels, decreased a trifle during the week, but at Duluth there was an increase of 503,670 bushels of wheat, making the total in store there on Monday 1,927,591 bushels. Duluth shippers have been offering all week 3¼ cents on wheat to Buffalo and this has resulted in a strong demand for vessels to take ore from at Ashland $1.15. On Marquette ore the rate is $1 but Escanaba shippers, who moved the great bulk of their product on low rates ruling early in the season, have been fairly well supplied with boats at 75 cents. There is every reason to look for a continuance of present conditions in the market for some time to come but no indication of any marked rise or fall in freights. Prices are no higher in the iron market but there is improvement to the extent that consumption is now in excess of production. Stocks of coke pig iron decreased 30,000 tons during August and there was also some decrease in charcoal iron. The weekly production of pig iron furnaces also showed a decrease on Sept. 1, and as against the period of greatest production, March, 1, 1892, the output on Sept. 1 showed a decrease of 37,232 tons per week.

In giving the name Windom to the new revenue cutter to be built for the Baltimore station the treasury department will honor the memory of William Windom, late secretary of the treasury.

Short History of Lake Navigation.

(By C. H. Keep, Secretary Lake Carriers' Association.)

FRENCH NAVIGATION ON THE GREAT LAKES.

The first white men who ever saw any of the lake water ways were the French navigators who, under Jacques Cartier, in 1534, sailed up the St. Lawrence river as far as Quebec. Cartier took home to France a glowing account of the noble river which he had explored and which he described as 90 miles in width at its mouth, narrowing to the ordinary dimensions ot a river at Quebec. In 1608 Samuel de Champlain settled at Quebec and in the following year he led the Indians of that country in a campaign against the Iroquois nation. With a fleet of Indian canoes he passed up the St. Lawrence river to the mouth of the river Richelieu thence into Lake Champlain, which he first discovered and to which he gave his name. In 1615 Champlain pushed his explorations as far as Lake Huron and established missionary stations on the eastern shore of the lake. In 1641 two missionaries, Jogues and Rambault, reached St. Marys Falls,and in 1658 two venturesome fur-traders reached the west end of Lake Superior. In 1665 Alouez reached St. Marys falls and soon after established missions there and on the shores of Green bay. He called a great convention of the Indian tribes at St. Marys falls at which fifteen Frenchmen were present, including Joliet. As a result of this convention and the friendly relations established with the Indians, Joliet and Marquette commenced their exploration, starting from St. Ignace on the Straits of Mackinaw and passing by the shores of Green bay into Lake Winnebago and thence up the Fox river to a portage over which they passed into the Wisconsin river. They descended the Wisconsin and finally reached the Mississipi, which they navigated to a point below the mouth of the Arkansas.

None of these explorers, however, had placed a regular sailing vessel on the great lakes, but on November 16, 1678, La Salle and Father Hennepin embarked on a schooner of 10 tons burden, which they had built on the site of the present Canadian city of Kingston. From there they proceeded to Lewiston, near the mouth of the Niagara river, where further navigation was stopped by the rapids. Here they disembarked and continued their journey on foot to a point on the Niagra river about six miles above the falls at the mouth of what is known as Cayuga creek. Here they built cabins, and La Salle gave orders for the building of a new ship. He himself returned to Frontenac (Kingston) for anchors, stores, etc. In May, 1679, at Cayuga creek was launched the Griffin, the first sailing vessel to navigate the upper lakes. On the 7th of August she sailed out into Lake Erie, and on the 11th arrived at Detroit river after passing through Lake St. Clair, to which La Salle gave his name, the Griffin continued on its voyage and arrived at Mackinaw on the 27th of August. On the 2nd of September she left for Green bay, which was her final destination. On her return voyage she was supposed to have been lost at some point between Green Bay and Mackinaw, but the exact story of her fate has never been learned. In 1687 the French governor of Canada, De Nonville, set out from Montreal with 300 bateaux with 1,600 white men and 400 Indians. He set sail on the 4th of July, 1687, with this fleet for Irondequoit bay, where he arrived on the 10th of July, after coasting along the south shore of Lake Ontario.

After the loss of the Griffin the early Frenth navigation of the lakes seems to have been chiefly confined to bateaux, and about the year 1700 the French had two or three brigantines on Lake Ontario. The names of these vessels are not known. In 1756, just before the English conquest of Canada, the French had from six to ten schooners and brigs on Lake Ontario. In July, 1756, six of these vessels chased the English Commodore Bradley into the harbor at Oswego. After the conquest of Canada all the French vessels which were not sunk were surrendered to the English. Two were destroyed in the small bay on the west side of Carlton's island in the St. Lawrence river, where the remains could be seen till very recently. No regular French sailing vessels navigated Lake Erie after the loss of the Griffin, but many of the bateaux built by the French, particularly between 1750 and 1760, were of large size, capable of transporting troops, and are sometimes spoken of in history as vessels.

TO BE CONTINUED.

The description of the Metropolitan automatic injectors week before last stated that if the seats become badly damaged they can be replaced by putting the injector in a lathe and turning the casing up. It should have read that this conld be done without putting the injector in a lathe,

Publications.

John Birch & Co., 10 Queen Street Place, London, E. C. have issued a valuable guide to technical liberature one part being devoted to a list of books on marine engineering. It is designed for the use of engineers and others in distant lands who require technical and industrial literature. Any one gathering a technical library will find it valuable.

A comprehensive catalogue of air compressing machinery has been compiled by the Clayton company, 43 Dey street, New York. Contractors for tunnels and marine work will be interested in it. Nineteen divers working for the Vigo Bay Treasure Company, Philadelphia, claimed they could work with greater comfort with the aid of a Clayton compressor than with any other they ever saw. Two New York wrecking companies speak highly of it for the same purpose.

"From the Forecastle to the Cabin," by Capt. S. Samuels, giving the life story of the captain, is one of the most interesting books on adventures of life at sea that has ever been written —probably because it is a true story. It contains enough romance to brighten up the thread of narrative and it is written in very simple language. The book is published by Harper & Bros., New York, but copies can be obtained from the New York office of the Marine Journal, the author being one of the publishers of that paper.

In General.

The cost of the World's Columbian Exposition to date is $8,743,259.22.

It has been agreed to hold the New York state canal convention in Buffalo on Wednesday, Oct. 19.

A large and perfect model of the great Forth bridge has been secured for exhibition at the world's fair.

Repairs to the electrical apparatus of the Baker sub-marine boat are nearing completion at Detroit and she will receive a severe test within a week or two. The engine and boiler have been removed and the storage battery will be depended upon entirely for propelling the boat. The storage capacity has been increased and there is every reason to believe that the boat will fulfill the government requirements. If it does it will probably be sold to the navy department.

Two years ago the steamer Roumania struck an obstruction north of Squaw island, Lake Michigan. Recently in looking for a shoal spot in the same locality, struck by the steamer Lansing, Commander Ludlow encountered a number of bad places. As stated in a notice to mariners printed last week a red nun buoy in 28 feet of water was placed by the inspector, 700 yards S. E. ½ S. from the shoalest spot found. It is probable that the Roumania's injuries were received on the extensive foul bottom located by Commander Ludlow.

CHICAGO LAKE INTERESTS.

WESTERN OFFICE, MARINE REVIEW,
No. 13 Western Union Building, CHICAGO, Ill., Sept. 22.

The yachting season will close next Saturday. More interest has been taken in this sport here this season than ever before, and it is believed that the foundation has been laid for a most successful season next year. More men with money are now becoming interested in it than ever before, and at the present rate it will not be many years before it will be the fashion to own a steam yacht. Reports come from all around the lakes that numberless steam yachts will come here next year, and a big effort is being made by the Chicago Yacht Club to secure proper harbors for them. At present there is not a fit place in all Chicago, except, a small lagoon at Lincoln park for these visiting yachts.

When Capt. James Davidson was in the city the other day he told of his experience with the schooner Kate Winslow, which he built over twenty years ago. The inspector of Inland Lloyds would not give the boat a better rating than A2, and that is the rating of the boat to this day. The objection to her was she was too shallow for her length. This will sound strange nowadays,for the Winslow was 14 feet deep in her shoalest place. From that day to this, Capt. Davidson said, the Kate Winslow has not cost the insurance companies a dollar. He seemed somewhat nettled over criticisms about his building boats at times when many vessel owners believed there were boats enough. He said he expected to go right on building and selling his boats regardless of the talk.

The first trial of coke on tugs was not a success. Opinions still vary as to what can be done to avert smoke. Some tugmen hold that hard coal is the only thing, while others hope to secure some smoke preventative device which will enable them to escape fine. The Society for the Prevention of Smoke has given the tugmen just ten days to abate the smoke nuisance or suffer the consequences.

Canada's Claim on the St. Clair Canal.

An editorial in a recent issue of the Toronto Empire, which is among the strongest supporters of the present Canadian government, presents Canada's claim on the question of the national ownership of the site of the St. Clair Flats canal. It will be remembered that about four years ago this question was brought up in congress by a senate resolution directing the secretary of war to investigate and report whether the channels in ordinary use on the St. Clair Flats were under American or Canadian jurisdiction. The report of the chief of engineers admitted that a small part of the east side of the canal is in Canadian territory, but claimed that the language of the treaty of Washington practically admits entire American jurisdiction, Article 27, declaring "the government of the United States engages that the subjects of her Britannic majesty shall enjoy the use of the St. Clair Flats canal on terms of equality with the inhabitants of the United States." Furthermore, a map attached to the boundary commissioners' report, under the treaty of Ghent of 1814, shows the canal to be on American soil. It will be interesting to note the Canadian claim, however, as this matter may come up for settlement through abrogation of the treaty of Washington. The Empire says:

"For a long period the discussion pertained to the location of the old ship channel, through which the present canal is built. That Canadians generally considered it to be on British soil is proven by the government of Canada having appropriated $20,000 (then a large amount) in 1855, to the deepening of the flats. In that year (10th April) the secretary of the Buffalo board of trade wrote the provincial secretary of Canada asking aid and saying that on the president vetoing a bill in 1854, which proposed to give a large sum of money for the improvement of the entrance to the old ship channel, the board itself proposed to carry on the work, but 'it was ascertained that the channel was in Canadian water and the project was therefore abandoned.' In 1858 the $20,000 was duly expended, and in 1870 the American congress voted $70,000, after which the canal was built. It was in the latter year, and during the construction period that the seizors of the Canadian barge for smuggling in what the captain supposed to be Canadian waters re-opened the whole question and caused wide discussion.

By the treaty of Ghent, 24th December, 1814, between Britain and the States, the boundary line question was referred to two commissioners to settle in accordance with the former treaty of 1783, in which the line was said to be drawn through the middle of all the great lakes, and the communications between them. Under this treaty (article 6) it is declared that 'the said commissioners shall by a report or declaration under their hands designate the boundary.' Messrs. Barclay and Porter were appointed to act, and reported the boundary line as follows: 'To the northwest of and near the island called Isle a la Peche to Lake St. Clair, thence through middle of said lake in a direction to enter the mouth or channel of the river St. Clair, which is usually denominated the old ship channel.'

Evidently, from this wording, it was intended that the line should be drawn straight from near the island of La Peche to the then navigable portion of the River St. Clair. Such a line would appear to place the St. Clair flats canal in Canadian territory. Furthermore, the commissioners being instructed to designate the boundary by a report or a declaration the map which accompanies their report, and which by some curious accident makes the canal appear on American soil, is neither legal or binding evidence. This at least was the contention of Canada in a privy council report of the 14th of February, 1871, in which it is said that 'The maps are not receivable as evidence of the exact location of boundary line, for the contracting parties confined the commissioners' decision to a declaration or report.' Furthermore the privy council statement says: 'On the case (the barge seizure) coming to the knowledge of the government, they caused a survey of the canal to be made, and on carefully comparing its ascertained position with that of the international boundary line, as described in the report of the commissioners, appointed under the sixth article of the treaty of Ghent—the committee of council having arrived at the conclusion that the canal is wholly within Canadian territory,'

Subsequently the matter was referred to the imperial government for action, and Lord Kimberly, then colonial secretary, (27th April, 1871,) supported the Canadian contention regarding the maps. Said he: 'Her majesty's government are further advised that considering the character of the report, and of the reference to the map, the latter can only be referred to as illustrating the report.' Lord Kimberly added that if the two were found at irreconcilable variance, the report must prevail. It will therefore be seen that the ownership of the territory in question by the United States is very far from being an assured fact."

A California Opinion of the Whalebacks.

John Richards, editor of the San Francisco magazine Industry, entertains a poor opinion of the American Steel Barge Company's whalebacks, and has on several occasions given expression to his dislike for them. Referring to the Wetmore, recently stranded, he says in the September number of Industries:

"We have seen the Wetmore, whaleback steamer, from the side of the dock, which was quite near enough for æsthetic purposes, but these aside, the whole scheme seems to be chimerical. To attain some added carrying capacity the spar deck is abandoned and housed over, thus taking away what may be called the "administrative" part of the ship, with no corresponding advantage. Nearly all the work on a ship is performed on her deck. Here is carried and operated her tackle of all kinds, and to say this must be abandoned to obtain an inclined freeboard seems poor engineering and lack of common sense. Below water there is gained, no doubt, something in carrying capacity, and certainly ought to be, to compensate for what is lost above water, not in appeatance only but in utility and convenience. It is a barge but not a ship, and we predict will become a tradition instead of a success, in so far as performing the functions of a ship for deep water service. There is on the Mississippi and its tributaries a class of vessels that excel even the whalebacks in the objects to which the latter seem to be directed. The vessels alluded to are called flat-boats."

"There is no Fog Above."

(Reproduced by Marine Journal from Word on the Waters.)

'Twas a summer's morn, yet never a ray
Of sunshine gladdened our hearts that day,
For a dense mist lay over land and sea,
Enveloping all in mystery.

Yet our ship was going fast ahead—
Too fast for safety, the wise ones said—
And one cried out to a sailor, "Take heed,
Were it not better to go half-speed?

"There are rocks ahead, there are quicksands nigh,
And many a ship lies moored hard by."
But the sailor made answer, "Never fear,
There's no fog above, it is only here.

"Our Skipper's aloft, and up there on high
He can see much farther than you or I,
And he's just signaled down, 'All clear ahead,'
So we know its all right," the sailor said.

At once I thought, what a lesson for me;
When the dense mists gather o'er life's dark sea
And I tremble to think of the rocks ahead,
I'll remember the words that the sailor said.

For I know that my Captain keeps watch above,
Directing my course in His tender love;
And if only He tells me the way is clear,
I'll steer right onward, and never fear!

A new Roberts boiler was placed in the tug Margaret J. Sanford, belonging to Ross & Sanford of Jersey City, and the boat made a trial trip last week. The boiler made all the steam required with natural draft, carrying part of the time 145 pounds which was all that the engine could stand. The boiler has been allowed 250 pounds of steam. The speed of the engine was increased from about eighty-eight turns with the old boiler to about 114 with the new one, with apparently much less fuel. Two other tugs in this harbor will soon be fitted with Roberts boilers. The Roberts boilers in the freight steamer George B. Sandt and the tug Niagara have been in use now between three and four years, and the owners of both boats say that they are entirely satisfactory.—Marine Journal.

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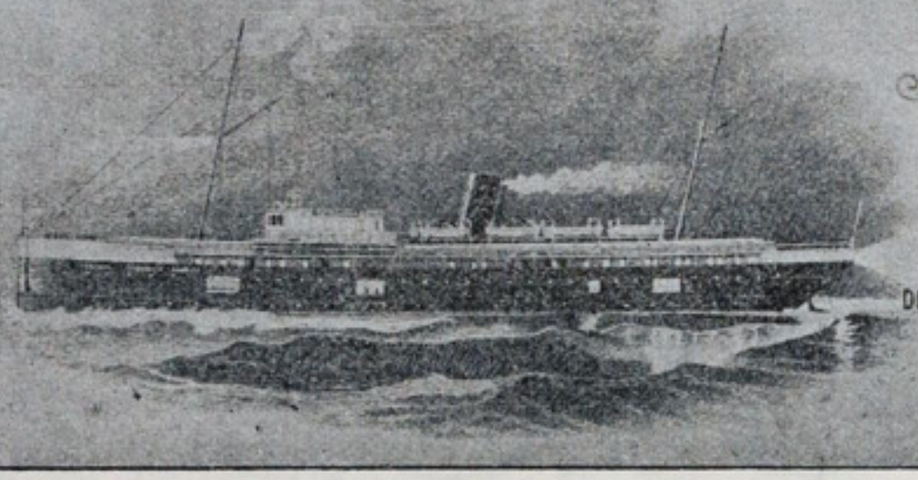

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UNITED STATES ENGINEER OFFICE, 34 West Congress street, Detroit, Mich., September 8, 1892. Sealed proposals for furnishing by the hour 1 dredge, 1 tug and 2 dump scows, for use at Detroit river, Mich., will be received at this office until 2 p. m., October 8, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office. O. M. POE, Colonel, Corps of Engineers, etc. Oct. 6.

TREASURY DEPARTMENT, WASHINGton, D.C., Sept. 3, 1892. Sealed proposals for constructing a steam propeller, to be named William Windom, for the United States revenue cutter service, will be received at this department until 2 o'clock p. m., Wednesday, Oct. 5, 1892. Bids must be in accordance with the instructions on page 5 of the specifications, and be addressed to the secretary of the treasury, and indorsed on the envelope "Proposals for construction of steam propeller for United States Revenue Cutter Service." Specifications for the work will be furnished to parties desiring to submit bids upon application to this department. The right is reserved to reject any or all bids, and to waive defects, if deemed for the interest of the government to do so. CHARLES FOSTER, Secretary. Sept. 21.

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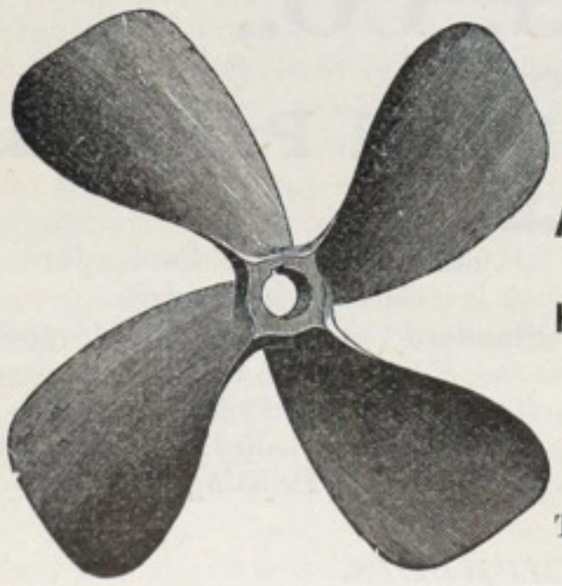

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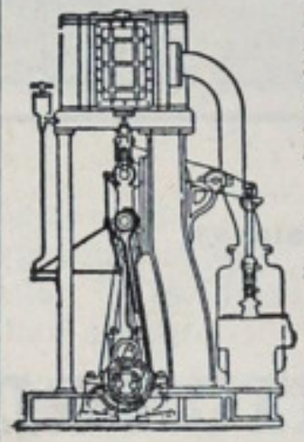

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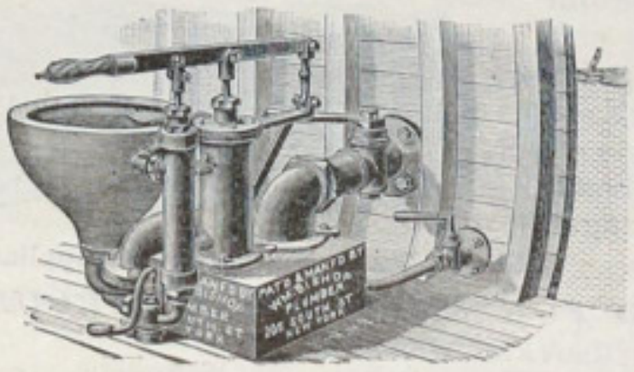

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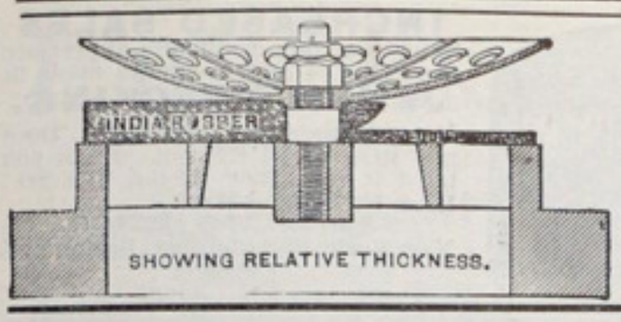

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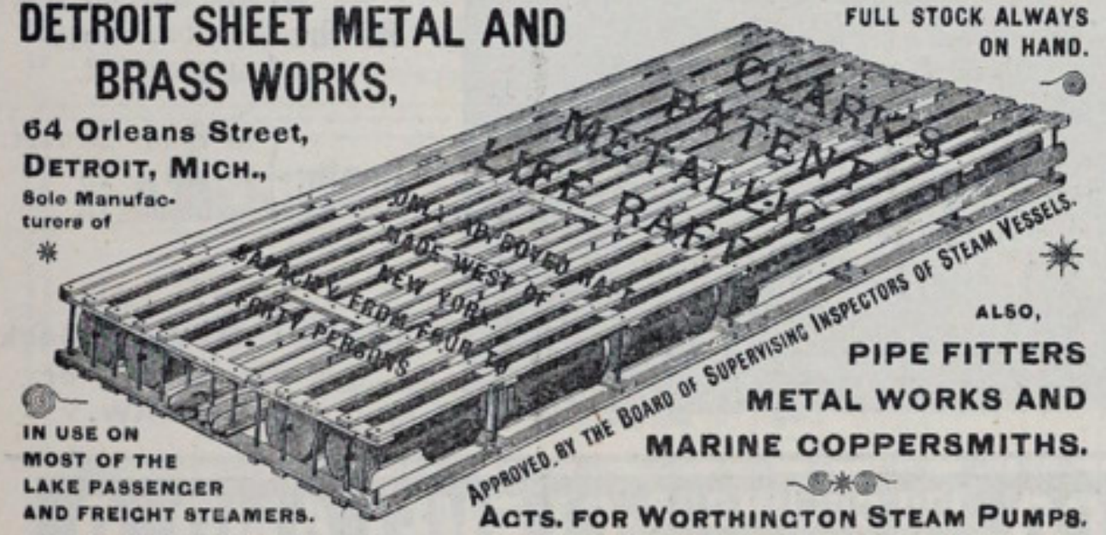

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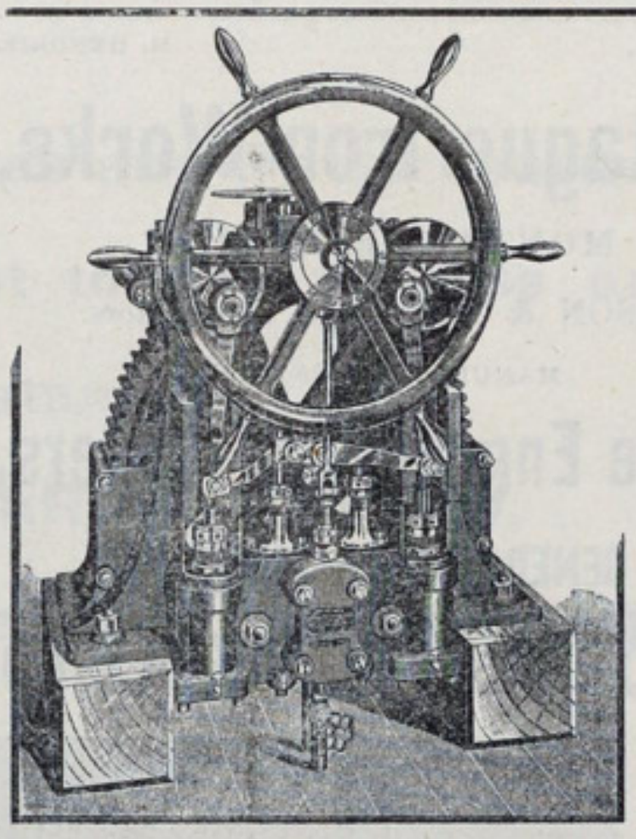

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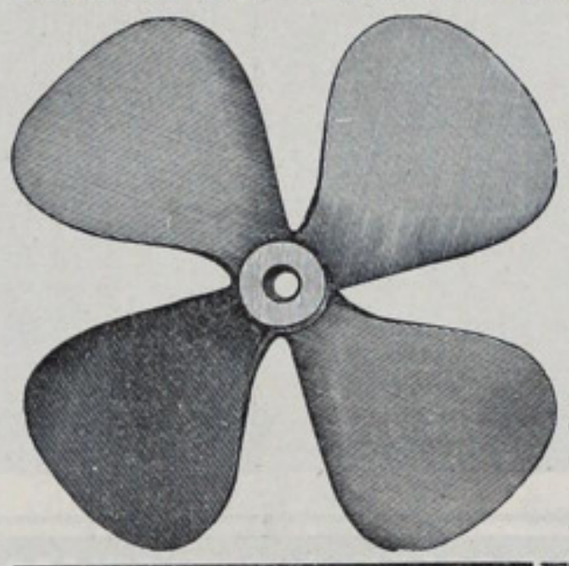

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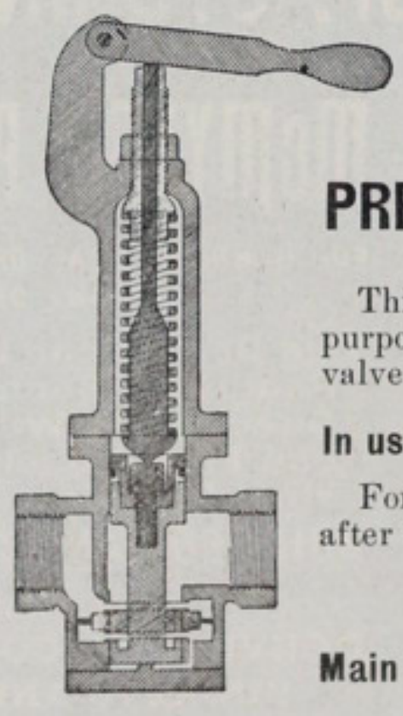

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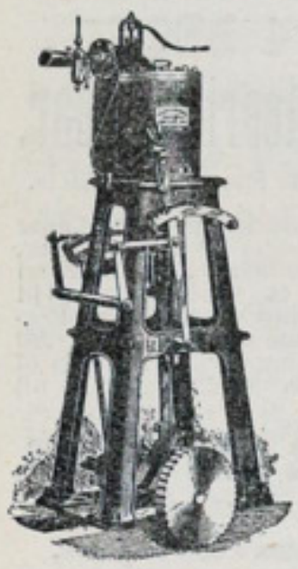

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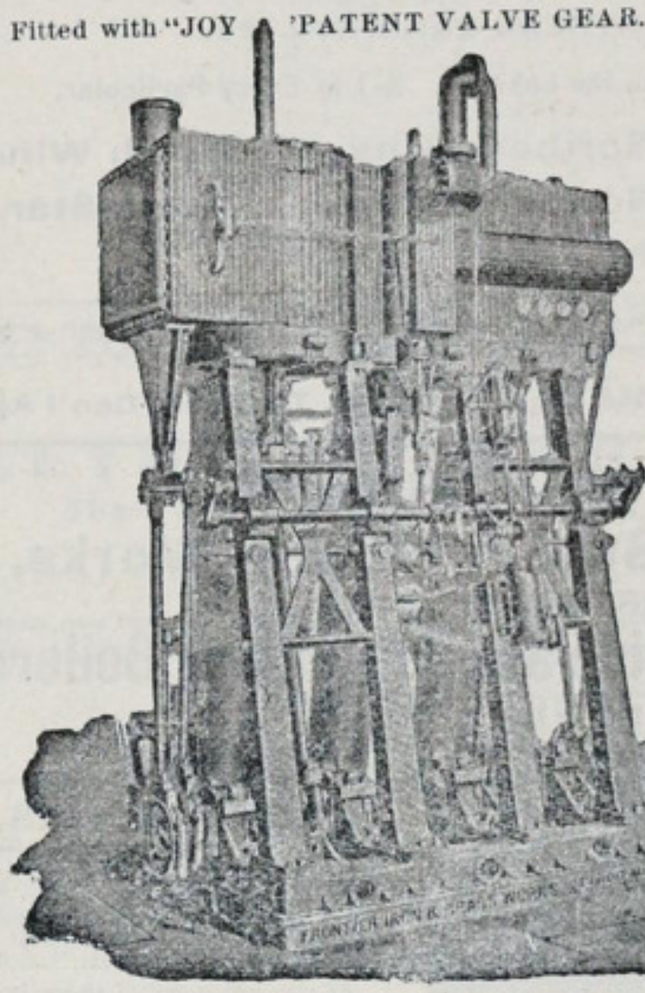

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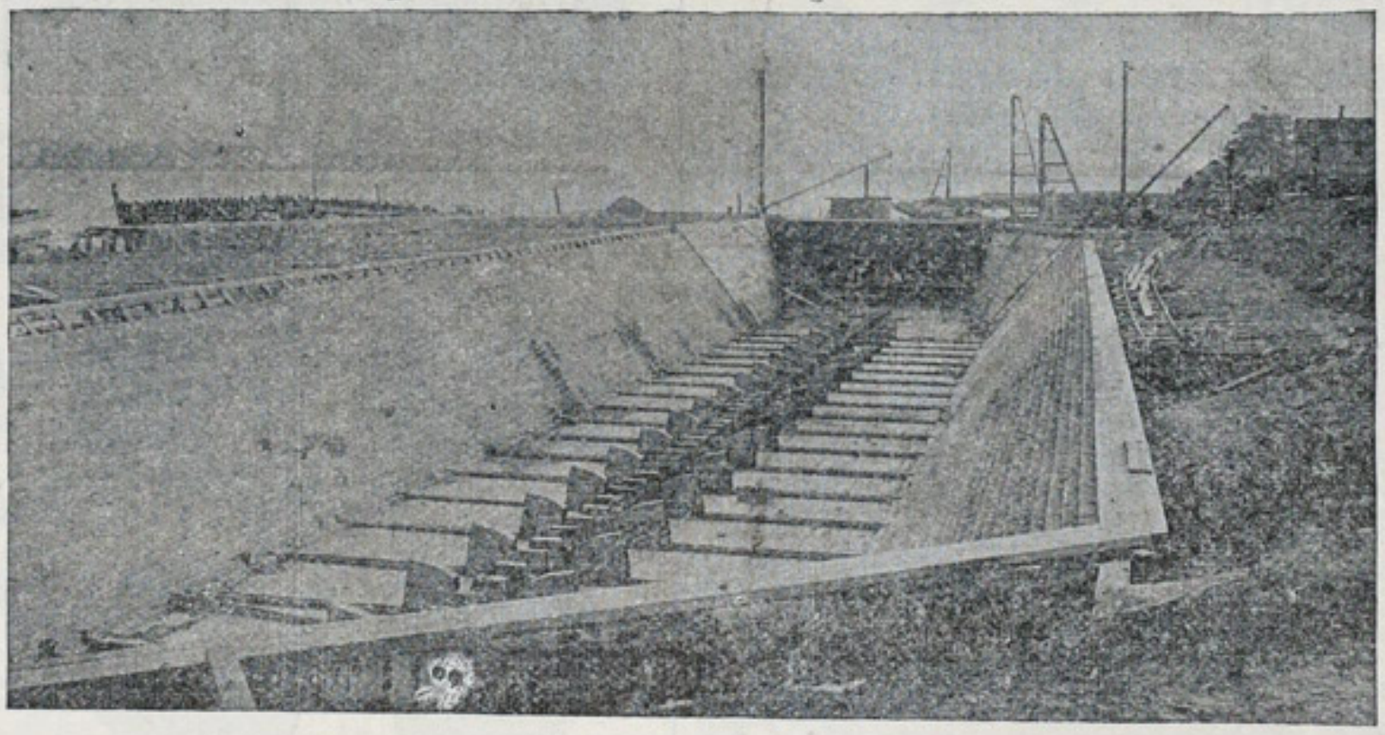

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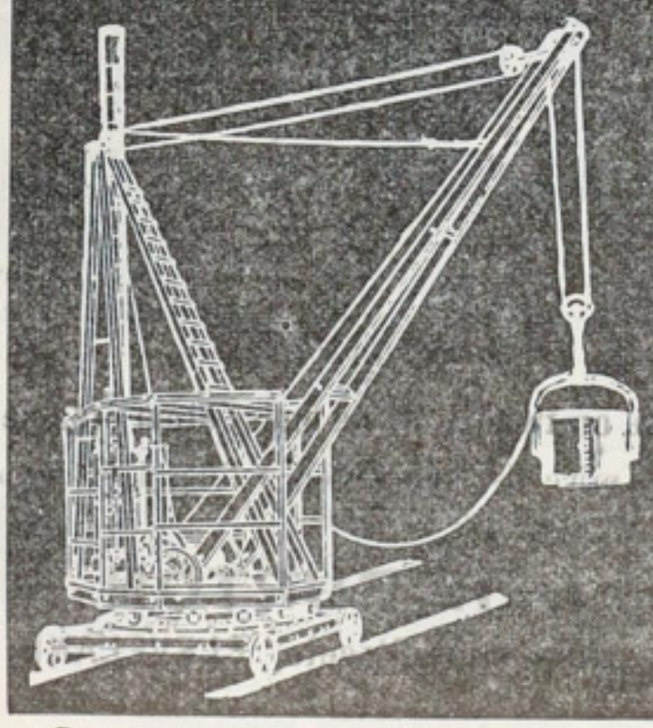

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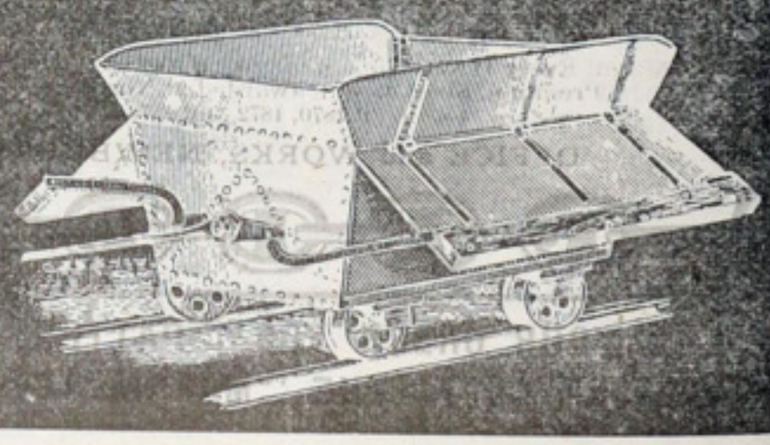

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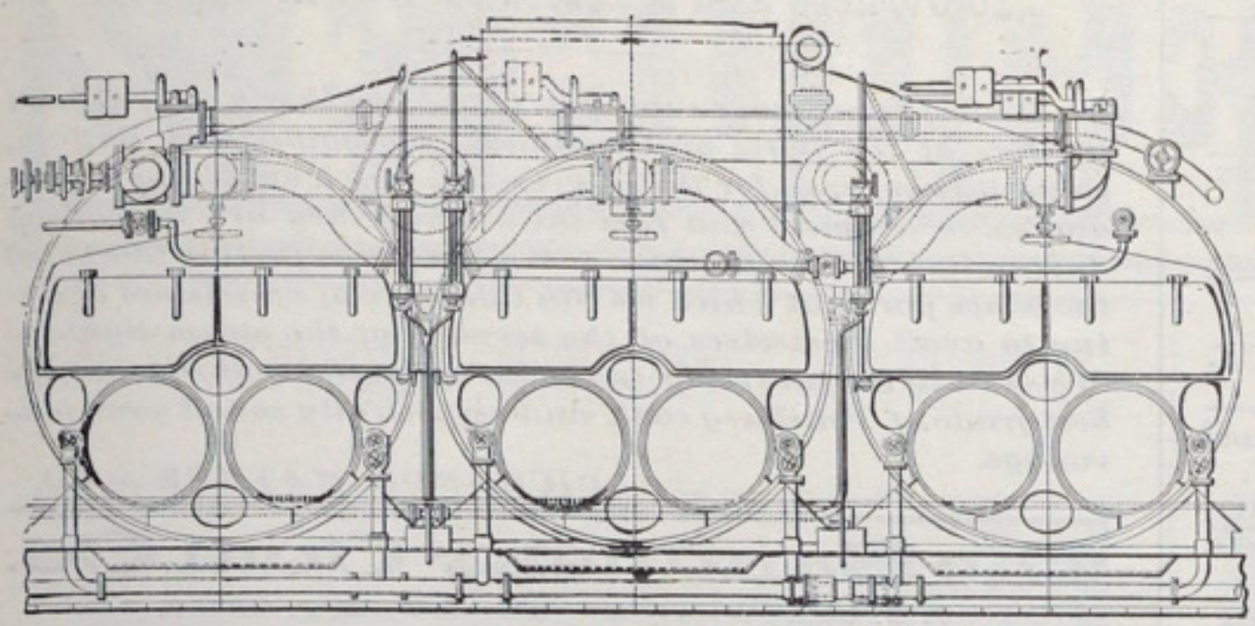

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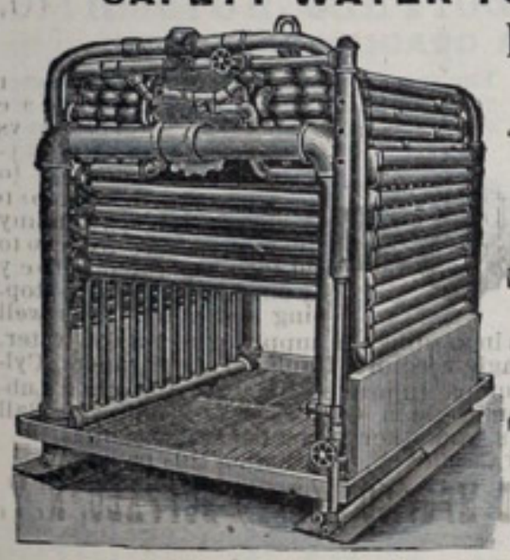

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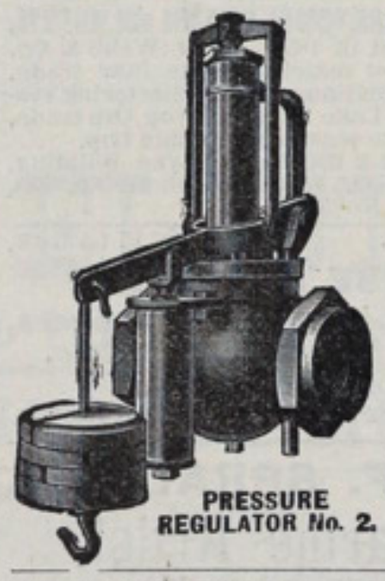

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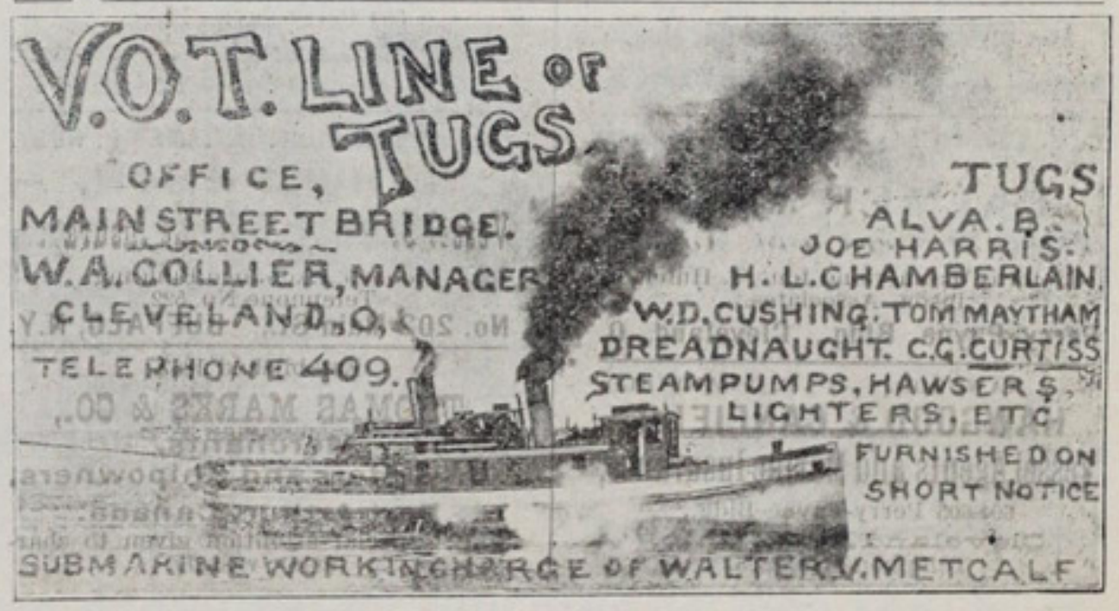

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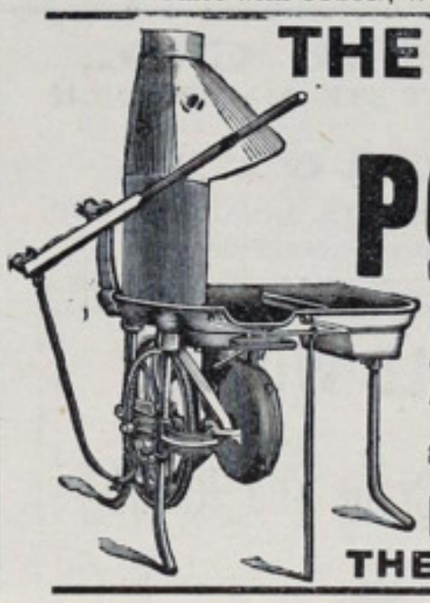

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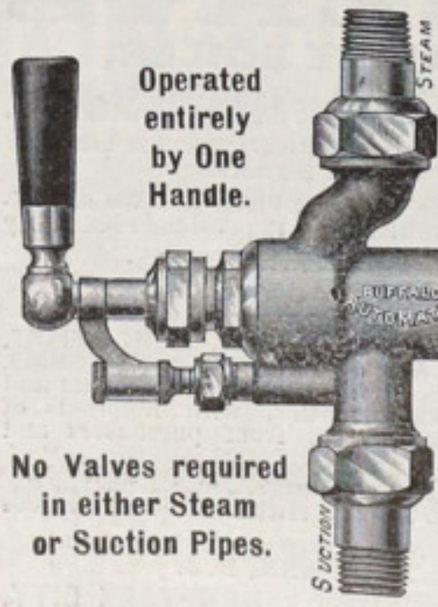

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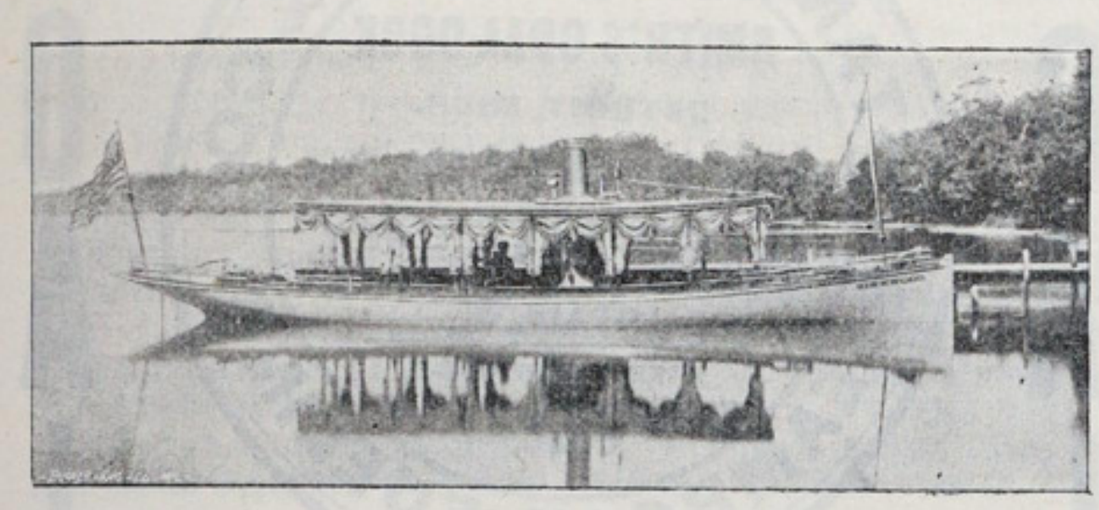

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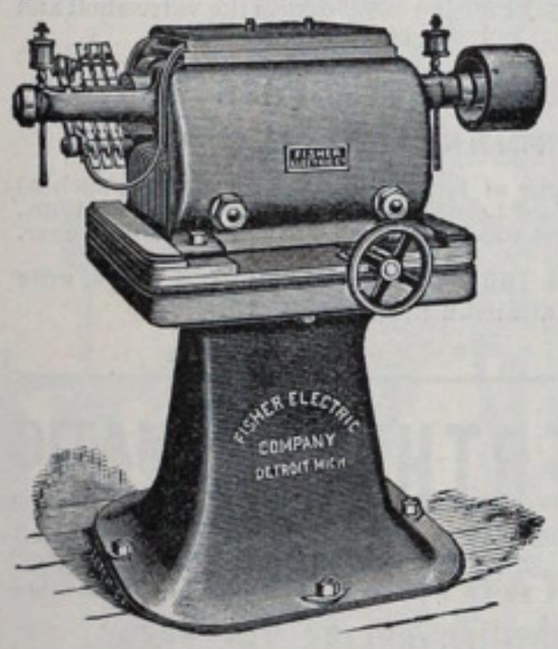

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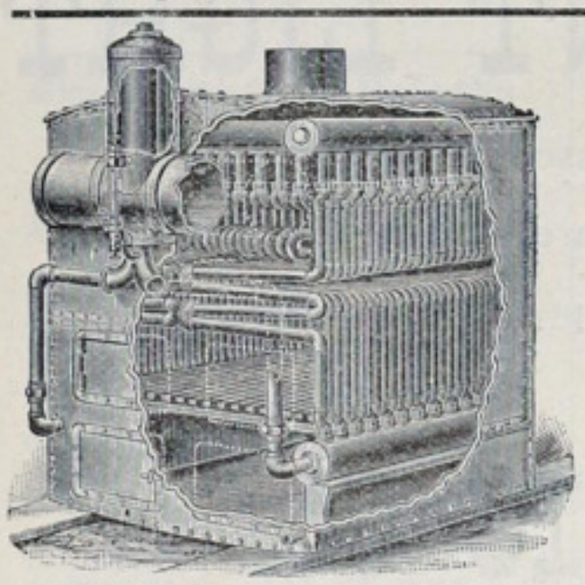

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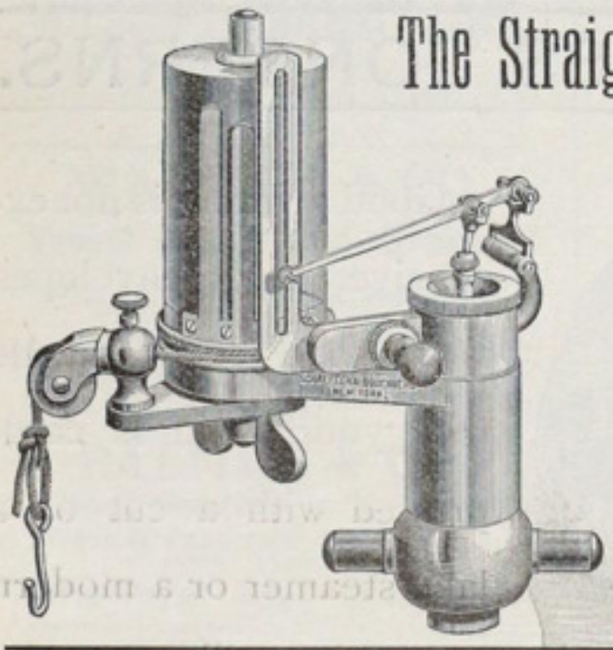

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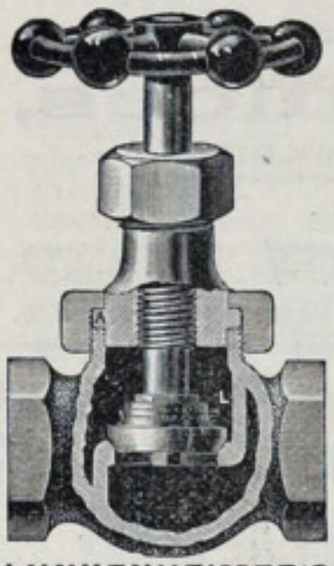

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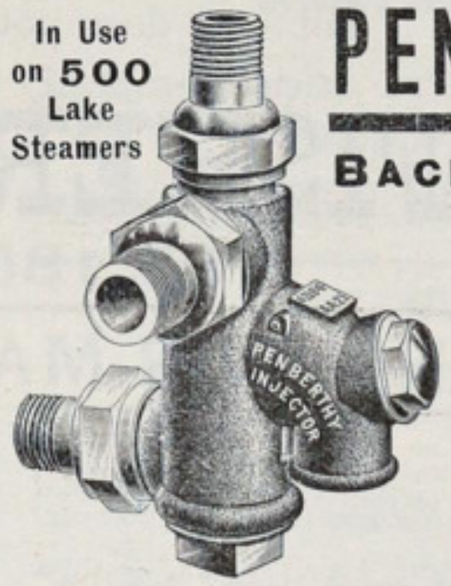

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